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WATCHING THE WEATHER WITH UNCLE SAM.

U. S. Department of Agriculture

The first of a series of ten talks by Welby R. Stevens, assistant forecaster, U. S. Weather Bureau, delivered through WRC and 32 other stations associated with the National Broadcasting Company, at 1:10 p.m., Eastern Standard Time, Monday December 30, 1929.

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Most of us start the day by looking for the day's weather forecast in the box on the first page of our morning newspapers, and during the day and the evening we look to the papers and listen to our radios for further weather information. The business of preparing these forecasts is a profound mystery to the average radio listener, I suppose. Forecasting weather is a business. A system underlies this work about which we propose to enlighten you in a series of short talks. We shall tell you today briefly of the development of the Weather Bureau and of the present wide spread system of reports that is essential to its work.

By the term weather we mean the atmospheric conditions as shown by the so-called meteorological elements at a particular time and place. These principal elements are temperature, atmospheric pressure, wind, moisture, clouds and precipitation. Then to forecast weather we must foretell the values which these elements are going to have at some definite time in the future. This cannot be done accurately on the basis of observations from a single station. The forecaster must have at his disposal a large number of observations taken over a wide area, especially to the westward, since, in general, weather conditions move from west to east. Moreover, the observations to be of the utmost value must be made simultaneously at all of the stations. In order to meet these requirements, and after it had been fairly well established that forecasts of the weather were practicable in the United States, the weather service was organized in 1870 at which time the Congress made provisions for establishing 24 stations. At first, the service was for the benefit of navigation on the seacoast and on the great Lakes, but it was soon extended to include the interior districts and the great rivers of the Central Valley. The benefits of the weather service, which had been entrusted to the Signal Service of the War Department, were soon recognized by business interests and the general public. Although started primarily in the interest of navigation, it became necessary to enlarge the scope of service to include agriculture and commerce and to extend the field of meteorological work and investigations. This enlargement of the original purposes and the important place it had earned in business and civil life led to the transfer of the weather service to the Department of Agriculture.

From the modest beginning of 24 stations in 1870 the weather service has grown steadily until now over 200 stations are maintained by the government in the United States, Alaska, Hawaii, and Porto Rico, with a trained meteorologist in charge of each, assisted at the larger stations by a corps of observers.

In addition to observations over these areas the forecaster has at his disposal information from stations in Canada, the West Indies, and from a large number of ships in the Atlantic and Pacific Oceans, the Gulf of Mexico, and the Carribean Sea. Not only American vessels but also English, French, and Japanese

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cooperate by promptly forwarding their observations by radio to the Weather Bureau.

We have outlined briefly the expansion of the weather service, how the field of observation has been broadened, and what observations a forecaster needs in his work. On next Thursday we will tell you how these observations are made, and describe the wonderful system of reports on which the forecasts are based.